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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,800	02/25/2004	Ashish Tandon	10031076-1	3337

7590 07/11/2006

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EXAMINER	
MENZ, DOUGLAS M	

ART UNIT	PAPER NUMBER
2891	

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/786,800	TANDON ET AL.	
	Examiner	Art Unit	
	Douglas M. Menz	2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *10-19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Chang et al. (US 6711195).

Regarding claim 1, Chang discloses a light-emitting device, comprising:

an active region (104, Fig. 5) configured to generate light in response to injected charge; and

a current confinement structure (*a portion of DBR* 332, Fig. 5, *is etched away to form mesa* 338, Fig. 5, *the current confinement structure is formed in the mesa* Col. 11, line 45 –Col. 12, line 35, *the current confinement structure extends down to the quantum well layer* 116, Fig. 3A, *which is part of quantum well structure* 106, Fig. 5 *of the active region* 104) located to direct charge into the active region and including a strain compensating layer adjacent an oxide-forming layer (*strain compensating layer is barrier layer* 118, Fig. 3A, *which is part of layer* 106, Fig. 5 and Col. 9).

Regarding claim 2, Chang further discloses the light-emitting device of claim 1 , in which the current confinement structure comprises an additional strain compensating layer adjacent the oxide-forming layer (Fig. 5 and Cols. 7-8), where the oxide-forming layer is sandwiched between the strain compensating layers.

Regarding claim 3, Chang further discloses the light-emitting device of claim 1, in which the strain compensating layer comprises gallium, indium and phosphorous (Cols. 7-8).

Regarding claim 4, Chang further discloses the light-emitting device of claim 1, in which the oxide-forming layer (346, Fig. 5) comprises aluminum, gallium and arsenic (Col. 11, lines: 55-67).

Regarding claim 5, Chang further discloses the light-emitting device of claim 1, in which the strain compensating layer consists essentially of $Ga_{1-x}In_xP$, where x is less than or equal to 0.5 (Col. 8).

Regarding claim 6, Chang further discloses the light-emitting device of claim 1, in which the oxide-forming layer consists essentially of $Al_xGa_{1-x}As$, where x is greater than or equal to 0.96 (Col. 11, lines: 55-65).

Regarding claim 7, Chang further discloses the light-emitting device of claim 1, in which: the strain compensating layer consists essentially of gallium indium phosphide GaInP (Col. 8); and

the oxide-forming layer consists essentially of aluminum gallium arsenide AlGaAs (Col. 11).

Regarding claim 8, Chang further discloses the light-emitting device of claim 7, in which: the strain compensating layer consists essentially of gallium indium phosphide $Ga_{1-x}In_xP$ in which x is less than or equal to 0.5 (Col. 8); and

the oxide-forming layer essentially of aluminum gallium arsenide $Al_xGa_{1-x}As$ in which x is greater than or equal to 0.96 (Col. 11, lines: 55-65).

Regarding claim 9, Chang further discloses the light-emitting device of claim 1, structured to generate light having a wavelength between 620nm and 1650 nm (Cols. 5-6).

Response to Arguments

Applicant's arguments filed 3/30/06 have been fully considered but they are not persuasive. Applicant argues that Chang fails to disclose "a current confinement structure located to direct charge into the active region and including a strain compensating layer adjacent an oxide forming layer". However, Applicant does concede that Chang clearly defines the strain compensating layers as sandwiching the

quantum-well layer. It is the Examiner's position, as noted above, that the current confinement structure extends from the mesa 338, Fig. 5 to the quantum layer 116, Fig. 3A of the active region 104. Therefore, the current confinement structure includes the barrier layer 118, Fig. 3A, which Applicant concedes is a strain compensating layer.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas M. Menz whose telephone number is 571-272-1877. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DM  7/6/06